

IN THE CLAIMS:

Please amend claims as follows:

1. (Currently Amended) A system, comprising:

a plurality of distributed access points each being divided into two or more groups of components distributed through corresponding two or more nodes of a plurality of nodes of a communication network in said system, each of said two or more groups comprising one or more components, wherein one of said two or more groups comprises a radio frequency layer component and another of said two or more groups comprises an access point software layer component, components of each access point of said plurality of the access points is divided into two or more groups located in corresponding two or more nodes of said plurality of the nodes, said two or more nodes being remotely located relative to each other, such that each of said two or more nodes is configured to establish a remote communication link with one or more other nodes of said two or more nodes to provide communications between said two or more groups of components in order to provide an intended functionality of said distributed access points. ~~of said two or more~~ [[7]]

~~wherein nodes of said plurality of the nodes are organized in a hierarchical order, such that a number of highest layer components of said plurality of the access points comprised in said plurality of the nodes is smaller than a number of lowest layer components of said plurality of the access points comprised in said plurality of the nodes in order to reduce a total number of components needed to provide said plurality of the access points of a communication network of said system.~~

Claims 2-25 are cancelled

26. (Currently Amended) The system of claim 1, wherein said each distributed access point of said plurality of the distributed access points comprises corresponding two or more nodes of said plurality of the nodes, said corresponding two or more nodes are:

an access dot, comprising a said radio frequency layer component; and

an access dot controller, comprising ~~an~~ said access point software layer component.

27. (Previously Presented) The system of claim 1, wherein said remote communication link is a wireless communication link, a short-range wireless communication link, a BLUETOOTH link, or a wired link.

28. (Currently Amended) The system of claim 1, wherein said each of said two or more groups located in said corresponding two or more nodes of said plurality of the nodes comprises a remote link driver configured to provide said remote communication link by extending a bus or using a protocol stack tunnel between corresponding components of said each of said two or more groups.

29. (Currently Amended) The system of claim 1, wherein said each distributed access point of said plurality of the distributed access points comprises corresponding two or more nodes of said plurality of the nodes, said corresponding two or more nodes are:

an access dot, comprising a said radio frequency layer component; and

an access dot controller, comprising an said access point software layer component,

wherein a physical layer component is comprised in said access dot or in said access dot controller.

30. (Currently Amended) The system of claim 1, wherein said each distributed access point of said plurality of the distributed access points comprises corresponding two or more nodes of said plurality of the nodes, said corresponding two or more nodes are:

an access dot, comprising a said radio frequency layer component; and

an access dot controller, comprising and said access point software layer component,

wherein ~~an access point software~~ a medium access control layer component is comprised in said access dot or in said access dot controller.

31. (Currently Amended) The system of claim 1, further comprising one or more system controllers, said system controller being one of said one or more system controllers, wherein each system controller of said one or more system controllers is configured to control one or more distributed access points of said plurality of the distributed access points distributed through said plurality of the nodes.

32. (Previously Presented) The system of claim 31, wherein at least one of said one or more system controllers is logically centralized and implemented as a physical switch.

33. (Currently Amended) The system of claim 31, wherein at least one of said one or more system controllers is logically centralized and implemented using a physically distributed hosting function incorporated into one or more distributed access points of said plurality of the distributed access points distributed through said plurality of the nodes.

34. (Currently Amended) The system of claim 1, wherein said each distributed access point of said plurality of the distributed access points comprises corresponding two or more nodes of said plurality of the nodes, said corresponding two or more nodes are:

- an access dot, comprising a radio frequency layer component;

- an access dot controller; and

- an access dot system controller, comprising an access point software layer component.

35. (Currently Amended) The system of claim 1, wherein said each distributed access point of said plurality of the distributed access points comprises corresponding two or more nodes of said plurality of the nodes, said corresponding two or more nodes are:

- an access dot, comprising a said radio frequency layer component;

- an access dot controller; and

- an access dot system controller, comprising said access point software layer component,

- wherein a physical layer component is comprised in said access dot or in said access dot controller, and

wherein a medium access control layer ~~an access point~~ software component is comprised in said access dot or in said access dot controller.

36. (Currently Amended) A method, comprising:

receiving or transmitting a communication signals ~~signal~~ by any distributed access point of a plurality of the distributed access points of a communication network ~~of in~~ a system for further processing, ~~said plurality of the access points being distributed through a plurality of nodes of said system~~ each of the plurality of the distributed access points being divided into two or more groups of components distributed through corresponding two or more nodes of a plurality of nodes of said communication network, each of said two or more groups comprising one or more components, wherein one of said two or more groups comprises a radio frequency layer component and another of said two or more groups comprises an access point software layer component, said two or more nodes being remotely located relative to each other, such that each of said two or more nodes is configured to establish a remote communication link with other nodes of said two or more nodes to provide communications between said two or more groups of components in order to provide an intended functionality of said distributed access points.

~~wherein components of each of said plurality of the access points are divided into two or more groups located in corresponding two or more nodes of said plurality of the nodes, said two or more nodes being remotely located relative to each other, such that each of said two or more nodes is configured to establish a remote communication link with one or more of said two or more nodes, and~~

~~wherein nodes of said plurality of the nodes are organized in a hierarchical order, such that a number of highest-layer components of said plurality of the access points comprised in said plurality of the nodes is smaller than a number of lowest layer components of said plurality of the access points comprised in said plurality of the nodes in order to reduce a total number of components needed to provide said plurality of the access points of the communication network of said system.~~

37. (Currently Amended) The method of claim 36, wherein said each distributed access point of said plurality of the distributed access points comprises corresponding two or more nodes of said plurality of the nodes, said corresponding two or more nodes are:

an access dot, comprising a said radio frequency layer component; and

an access dot controller, comprising ~~an~~ said access point software layer component.

38. (Previously Presented) The method of claim 36, wherein said remote communication link is a wireless communication link, a short-range wireless communication link, a BLUETOOTH link, or a wired link.

39. (Currently Amended) The method of claim 36, wherein said each of said two or more groups, located in said corresponding two or more nodes of said plurality of the nodes, comprises a remote link driver configured to provide said remote communication link by extending a bus or using a protocol stack tunnel between corresponding components of said each of said two or more groups.

40. (Currently Amended) The method of claim 36, wherein said each distributed access point of said plurality of the distributed access points comprises corresponding two or more nodes of said plurality of the nodes, said corresponding two or more nodes are:

an access dot, comprising a said radio frequency layer component; and

an access dot controller, comprising an said access point software layer component,

wherein a physical layer component layer component is comprised in said access dot or in said access dot controller.

41. (Currently Amended) The method of claim 36, wherein said each distributed access point of said plurality of the distributed access points comprises corresponding two or more nodes of said plurality of the nodes, said corresponding two or more nodes are:

an access dot, comprising a said radio frequency layer component; and

an access dot controller, comprising and said access point software layer component,

wherein a medium access control ~~an access point software~~ layer component is comprised in said access dot or in said access dot controller.

42. (Currently Amended) The method of claim 36, wherein said each distributed access point of said plurality of the distributed access points comprises corresponding two or more nodes of said plurality of the nodes, said corresponding two or more nodes are:

an access dot, comprising a said radio frequency layer component;

an access dot controller; and  
an access dot system controller, comprising said access point software layer component.

43. (Currently Amended) The method of claim 36, wherein said each distributed access point of said plurality of the distributed access points comprises corresponding two or more nodes of said plurality of the nodes, said corresponding two or more nodes are:

an access dot, comprising a said radio frequency layer component;

an access dot controller; and

an access dot system controller, comprising said access point software layer component,

wherein a physical layer component is comprised in said access dot or in said access dot controller, and

wherein a medium access control layer ~~an access point software~~ component is comprised in said access dot or in said access dot controller.

44. (New) The method of claim 36, wherein, for said each distributed access point of said plurality of distributed access points, at least one component of one group of said two or more groups of components is operatively connected to a system controller.

45. (New) The method of claim 36, wherein at least one component of one group of said two or more groups of components located in one node of said plurality of nodes is a part of two or more distributed access points of said plurality of distributed access points, such that said at least one component is configured to establish a remote communication link with



corresponding further components, each of said corresponding further components comprised in a further group of said two or more groups of components and located in one of two or more different further nodes of said plurality of nodes, said further components being parts of corresponding said two or more distributed access points, in order to provide said intended functionality of said two or more distributed access points,

wherein a number of components needed to provide said plurality of the distributed access points in said communication network is reduced compared to a number of components needed to provide the same plurality of access points implemented as stand-alone units.

46 (New) The system of claim 1, wherein, for said each distributed access point of said plurality of distributed access points, at least one component of one group of said two or more groups of components is operatively connected to a system controller.

47 (New) The system of claim 1, wherein at least one component of one group of said two or more groups of components located in one node of said plurality of nodes is a part of two or more distributed access points of said plurality of distributed access points, such that said at least one component is configured to establish a remote communication link with corresponding further components, each of said corresponding further components comprised in a further group of said two or more groups of components and located in one of two or more different further nodes of said plurality of nodes, said further components being parts of corresponding said two or more distributed access points, in order to provide said intended functionality of said two or more distributed access points,

wherein a number of components needed to provide said plurality of the distributed access points in said communication network is reduced compared to a number of components needed to provide the same plurality of access points implemented as stand-alone units.

48. (New) A distributed access point, comprising:

two or more groups of components distributed through corresponding two or more nodes of a communication network, each of said two or more groups comprising one or more components, wherein one of said two or more groups comprises a radio frequency layer component and another of said two or more groups comprises an access point software layer component, said two or more nodes being remotely located relative to each other, such that each of said two or more nodes is configured to establish a remote communication link with one or more of other nodes of said two or more nodes to provide communications between said two or more groups of components in order to provide an intended functionality of said distributed access point.